

## **REMARKS**

This amendment is in response to the office action dated December 3, 2004. In the office action, claims 1-19 were rejected. Claims 1-19 are amended. The office section raised in issue related to inventorship. There is only one inventor, Mr. Wing Yat Lo, as discussed more fully below. The abstract was objected to by the Examiner. The abstract has been amended response to the Examiner's concerns, and is also discussed more fully below. A detailed discussion of each item in the office action follows.

## **OATH/DECLARATION**

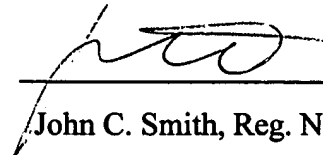
In item 1 of the office action, the Examiner stated that the Oath/Declaration was defective because the inventor "John Smith" had not signed the declaration.

The oath/declaration is not effective for the following reasons. There is only one inventor, Mr. Wing Yat Lo. The declaration, as filed, only contains Mr. Lo's signature because he is the only inventor. The John Smith in question is the attorney of record, myself. I believe this error came about because when I filed this application electronically, I filled out the declaration form via the e-Pave system, naming Mr. Lo as the inventor. I signed the online form for him as his attorney, which is indicated on the form. In addition, I attached an image of the actual declaration form with only Mr. Lo's actual signature. I am not an inventor on this patent application, and therefore a declaration with my signature would be invalid. The original declaration, which only names Mr. Lo, is also accurate for that reason. The following affidavit states that I, John Smith, am not an inventor.

## **AFFIDAVIT REGARDING INVENTORSHIP**

I, John Smith, have been inadvertently listed as an additional inventor on this invention through a possible typographical error on my part when filling out the declaration form on ePave.

I am not an inventor for this application. The only inventor is the inventor of record, Mr. Wing Yat Lo. Please remove my name from the list of inventors for this application. My involvement with this application is solely as attorney of record.

  
John C. Smith, Reg. No. 33,284

### **THE ABSTRACT**

In item 4 of the office action, the abstract was objected to. The abstract was amended in response to this item of the office action by eliminating any references to merits or applications of the invention.

### **THE 112 REJECTION**

In items 6-13 of the office action, claims are rejected under 35 USC 112, second paragraph. In response to this basis of rejection, Applicant is amending the claims as follows:

Regarding item 8, in claims 1 and 10, the term --further comprising-- was amended to read "comprising".

Regarding item 9, in claim 1, the claim was amended to refer to a single conductor.

Regarding item 10, in claim 2, the claim no longer needs to be amended because of the amendment to claim number 1.

Regarding item 11, claims 3-19 were amended to eliminate the term --at least one conductor--.

Regarding item 12, due to the amendment to claim 1, the term --the adjacent segments-- does not need to be changed.

Regarding item 13, claimed 4 was amended to more clearly defined the adjacent segments as the adjacent segments in independent claim 1.

### **THE 102(b) REJECTION**

In items 14-15 of the office action, claims 1-2, 7-8, 10-11, 16-17 and 19-20 were rejected under 35 U.S.C. 102(b), as being anticipated by Nugent. Nugent does not anticipate Applicant's invention for the following reasons:

1. Nugent is not known or capable of performing the function of this invention, nor does it teach the disclosure of this invention.
  2. Nugent does not disclose the purpose, means or mechanism that this invention discloses.
  3. Nugent does not solve the problems that this invention solves.
  4. Nugent does not disclose each and every element of this invention.
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1. **Nugent is not known or capable of performing the function of this invention, nor does it teach the disclosure of this invention.**

There is not anticipation by a prior patent not known or recognized as being capable of performing the function of the patented device, but rather the prior patent must itself do the teaching. RCA Corp. v. Applied Digital Data Systems, Inc., 730 F.2d 1440, 221 U.S.P.Q. 385 (1984); Edstrom-Carson & Co. v. Onsrud Machine Works, Inc., 129 U.S.P.Q. 457.

Nugent is not capable of functioning the same as this invention because:

Nugent is an example of prior art solution to transmission line quality problems. It uses two physically distinct signal lines which interact with one another to minimize signal interference caused by magnetic fields. Nugent's solution is to use a signal line and a return line in combination with one another to reduce noise. The lines are positioned in a helical formation to control their position in relation to one another. Nugent's invention cannot work without the use of two separate and distinct lines.

Applicant's invention is wholly different. It does not require a second line. In Applicant's invention, a single signal line, by itself, can reduce self inductance within itself, which in turn reduces frequency group delay. While the prior art, including Nugent and others, has attempted to reduce self inductance, the prior art has not been able to accomplish this using a single line which uses the signal within that single line to reduce self inductance and frequency group delay without the assistance of external forces applied by secondary signal lines or other means. Applicant's invention achieves this by folding the signal line such that adjacent segments of the signal line are positioned close enough to one another such that the fields in each segment of the signal line interact with one another. In the preferred embodiment, Applicant's invention uses segments that are substantially parallel to one another to maximize the interaction between the magnetic fields. In addition, other configurations, such as the sawtooth configuration shown herein achieve similar results, although at a reduced rate of efficiency.

While Applicant's invention is specifically designed to reduce self inductance while using a single signal line, Nugent would be entirely inoperable for this purpose if its second signal line

was removed. As a result, Nugent cannot perform function of this invention, and neither does it teach it.

**2. Nugent does not disclose the purpose, means or mechanism that this invention discloses.**

There is no anticipation where a reference does not disclose the purpose, means and mechanism for accomplishing the instant invention but rather is restricted to a limited and different means. Sperry Products, Inc. v. Aluminum Company of America, 120 U.S.P.Q. 362.

The goals or objects of Applicant's invention, without limitation, are to provide a unique signal cable structure in which "the leads inside the cable are formed in a generally rectangular structure such that current passing through a segment of the signal cable is traveling in the opposite direction of the current in an adjacent segment of the signal cable." (Paragraph 10 of the application as filed).

Nugent cannot meet these objects to the extent that Applicant's invention can, because Nugent is not directed to reducing self inductance using only a single signal lead. Nugent uses a conventional approach in which two signal leads are required, with each signal lead offsetting the self inductance in the other.

Applicant's invention differs from Nugent because it uses a unique structure that is specifically designed to allow a single signal lead to reduce self inductance within itself using only the signal that it carries. Further, in the event that a signal cable used by Applicant's invention includes multiple lines, they are specifically set as far apart from one another as possible so that the interference between the lines is minimized. Nugent seeks the opposite by maximizing interference between two lines carrying the same signal.

**3. Nugent does not solve the problems that this invention solves.**

There is no anticipation if a prior patent does not solve the problem(s) which the subsequent patent successfully solves. Technical Development Corporation v. Servo Corporation of America, 125 U.S.P.Q. 133.

Applicant's invention solves a unique problem. Namely, the minimization of self inductance, and in turn, group frequency delay within a single signal lead. In contrast, Nugent cannot solve this problem because it is specifically designed for multi-wire cables.

**4. Nugent does not disclose each and every element of this invention.**

There is no anticipation if the reference does not disclose each and every element of the claimed invention. SSIH Equipment S.A. v. United States International Trade Commission, 718 F.2d 365, 218 U.S.P.Q. 678 (1983).

Nugent does not disclose a means to reduce self inductance using a single signal lead. Further, Applicant's invention has specific elements related to the structure of the signal lead that are different than the multiwire cable taught by Nugent. As shown by the drawings in Nugent, a twisted helix pair of wires is used for the purpose of interacting with one another. Applicant's invention specifically uses a single wire which reduces self inductance by intentionally forming the wire in shapes which allow the signal within segments of a single wire to interact with the signal in different segments of the same wire.

For all the reasons set forth above, Applicant's invention is not anticipated by Nugent.

To more clearly define Applicant's invention over Nugent, Applicant has amended independent claims 1, 10 and 19 to more specifically describe the ability of Applicant's invention to reduce self inductance using only a single signal lead. Based on the amendment to the independent claims, Applicant's Attorney believes that this basis of rejection has been overcome, and respectfully requests the Examiner to reconsider the claims with a view toward allowance.

## **THE 103 REJECTION**

In items 16-19 of the office action, claims 3-6, 12-15 were rejected under 35 U.S.C. 103, as being obvious in light of Nugent/Gerry. Applicant is responding to this basis of rejection as follows:

In item 17 of the office action, the Examiner raised the issue of joint inventors. There is only one inventor, Mr. Wing Yat Lo. The issue of inventorship was discussed above and an affidavit was provided by attorney of record John C. Smith acknowledging that he is not an inventor. Applicant's Attorney believes that this issue is moot in light of the affidavit.

In items 18-19 of the office action, claims 3-6 and 12-15 stand rejected under 35 U.S.C. 103 as being obvious in light of Nugent, and Nugent/Gerry. Applicant's Attorney believes that the invention is not obvious in light of Nugent or Nugent/Gerry for the following reasons.

The Section 103 objection only applies:

. . . if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.

Applicant's invention is not obvious and thereby unpatentable in view of Nugent/Gerry for the following reasons:

- 1. The reference cited does not make obvious Applicant's invention as a whole.**

The obviousness inquiry is not whether each element can be found in the prior art, but whether the prior art made obvious the invention as a whole. Grain Processing Corp. v.

American Maize-Products, 840 F.2d 902, 5 U.S.P.Q.2d 1788 (Fed. Cir. 1988); Hartness Int'l. Inc. v Simplimatic Eng. Co., 819 F.2d 1100, 1108, 2 U.S.P.Q. 1826, 1832 (Fed.Cir. 1987); and ACA Hosp.Sys. Inc. v. Montefiore Hosp., 732 F.2d 1572, 1577, 221 U.S.P.Q. 929, 933 (Fed. Cir. 1984).

Neither Nugent or Nugent/Gerry specifically teach a device which is designed to use a single signal lead to use current within one segment of that line to reduce self and doctrines and group frequency delay by interacting with another segment of the same signal lead. Applicant's invention is designed to do exactly that. The reduction of self inductance and group frequency delay by manipulating the physical structure of a single signal line is exactly the problem which Applicant's invention solves. Nugent/Gerry, either alone or in combination, does not address the this problem which Applicant's invention solves. Nugent is designed for a two wire system. Likewise, Gerry is designed for a high-voltage automobile ignition system, and its purpose is to reduce electromagnetic radiation such that it does not interfere with other components of the automobile, such as the radio. It has nothing to do with frequency group delay.

**2. The inventions in Nugent or Nugent/Gerry are not designed to accomplish the objects and goals of Applicant's invention, as set forth more fully herein.**

A finding of obviousness cannot be made by combining the teachings of the prior art to produce the claimed invention if the prior art does not specifically teach or suggest that the combination be made. Panduit Corp. v. Dennison Mfg. Co., 774 F.2d 1082, 227 U.S.P.Q. 337, (Fed. Cir. 1985), vacated and remanded, 106 S.Ct. 1578, 229 U.S.P.Q. 478 (1986), aff'd in part and rev'd in part, 810 F.2d 1561, 1568, 1 U.S.P.Q. 2d 1593, 1597 (Fed. Cir. 1987), In re Stencil, 828 F.2d 751, 755, 4 U.S.P.Q. 2d 1071, 1073 (Fed. Cir. 1987), citing Interconnect Planning Corp. V. Feil, 774 F.2d 1132, 1143, 227 U.S.P.Q. 543, 551 (Fed. Cir. 1985) and In re Corkill, 771 F.2d 1496, 1501-02, 226 U.S.P.Q. 1005, 1009-10 (Fed. Cir. 1985).



Nugent/Gerry is clearly designed for use with multi-signal lead systems and reduction of magnetic field transmission in power equipment. Applicant's invention is designed to control self inductance within a single signal lead and is not concerned with external signal leads or power systems. Therefore, Nugent/Gerry could never be used to solve the problem that Applicant's invention solves.

### **THE ALLOWABLE SUBJECT MATTER**

Regarding item 20 of the office action, the Examiner indicated that claims 9 and 18 would be allowable if rewritten to overcome the rejection under 35 U.S.C. 112 and to include all of the limitations of the base claim and any intervening claims.

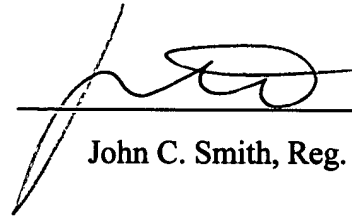
Regarding claims 9 and 18 were amended to include all of the limitations of their respective independent claims and intervening dependent claims. In addition, appropriate amendments to address informalities under 35 USC 112 were also made.

### **CONCLUSION**

Applicant's Attorney thanks the Examiner for the Examiner's help in prosecuting this invention. In response to the office action, Applicant's Attorney has amended the abstract and claims 1-19. Applicant's Attorney has been careful to avoid the introduction of new matter. In addition, a separate petition and fee for a three month extension of time is attached. Applicant's Attorney believes that all items in the office action dated December 3, 2004<sup>th</sup> have been addressed, and respectfully requests the Examiner to reconsider the claims, as amended, with a view towards allowance. Applicant's Attorney further invites the Examiner to contact Applicant's Attorney for a telephonic interview at the below listed number if the Examiner believes that prosecution of the application can be furthered by so doing.

Respectfully submitted,

By: \_\_\_\_\_

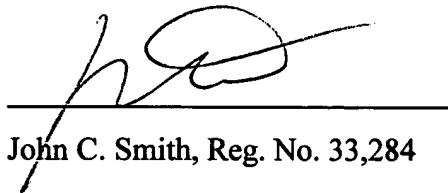


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on: June 3, 2005

Date of Deposit



John C. Smith, Reg. No. 33,284

June 3, 2005

Signature Date